

**EMERGENCY STREAMBANK
PROTECTION**

**MACHIAS RIVER / FORT O'BRIEN STATE PARK
MACHIASPORT, MAINE**

U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Massachusetts

SEPTEMBER 1990

Executive Summary

A reconnaissance scope study was conducted under the special continuing authority contained in Section 14 of the 1946 Flood Control Act as amended. It investigated remedial measures to repair serious bluff erosion that is threatening the historic fortifications at Fort O'Brien State Park in Machiasport, Maine.

Federal assistance was initially requested by the State of Maine Department of Conservation in a letter dated 20 July 1989, and that request has been supported by Congressional interests and other State and local agencies.

This report describes the study process used to formulate and evaluate the various erosion control alternatives considered for the study area. However, Federal involvement is not possible at this time, as none of the solutions under consideration were found to be economically justified.

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Study Authority

The investigation of erosion conditions at Fort O'Brien State Park was accomplished under the special continuing authority contained in Section 14 of the 1946 Flood Control Act. Projects constructed under the Section 14 authority share the cost of plans, specifications and construction between the Federal government and a legally empowered local sponsor. The Federal share would be 75 percent of the total cost but could not exceed \$500,000.

The Study Area

Machiasport is a coastal town located in Maine's Washington County. It is approximately thirty miles northeast of Bar Harbor. Fort O'Brien and the Machias State Park are situated on Route 92 in Machiasport adjacent to the Machias River as it flows into Machias Bay as shown on Plate 1.

Fort O'Brien is a State Historic Site managed by the Maine Bureau of Parks and Recreation. The fortifications at the site date back to 1775 with enlargement and updates circa 1777 and 1863. The Fort O'Brien site possesses extremely high archaeological potential. According to Mr. Robert Bradley, Assistant Director of the Maine Historic Preservation Commission, the site is the only Revolutionary War fortification in eastern Maine, and one of the few on the entire east coast which is undisturbed. Today, only the earth escarpment of 1863 is readily visible; the remainder of the works from the Revolutionary War and Civil War eras are essentially buried at the site.

The deed the State of Maine holds on the fort has a reversionary clause that would provide for Federal ownership in the event that the State opted not to retain the lands at the Fort O'Brien site.

Existing Conditions

A sketch of the Fort O'Brien site is shown on Plate 2. Serious erosion is occurring along the face of the high bluff that overlooks the Machias River mouth at Machias Bay.

Wind, waves, ice action, and runoff erode materials from the base of the bank. Unsupported materials higher on the bank then slide down to an elevation where they also are removed by tidal, ice and wave actions. Surface water runoff exacerbate the sliding process once surface vegetation has been removed. The erosion is estimated to extend over an area 350 feet long and ranges between 40 and 50 feet high with an average slope of 1 vertical to 1.25 horizontal along the face of the bluff. During a site inspection on December 7, 1989, the distance from the nearest gully to the toe of the escarpment was measured at ten feet. No qualitative information exists to verify the rate of erosion, but local interests have reported that more than three feet per year is being lost along the edge of the bluff.

The typical soil profile of the bank is approximately one foot of topsoil underlain by brown fine to coarse sand and gravel with a trace of silt. Cobbles and boulders up to two feet in diameter were observed in the sand and gravel. Cobbles and boulders up to six feet in diameter were noted in the mud flat at the base of the bank. Low lying vegetation and a small amount of small deciduous trees were growing on the non-eroded areas of the bank.

Without Project Condition

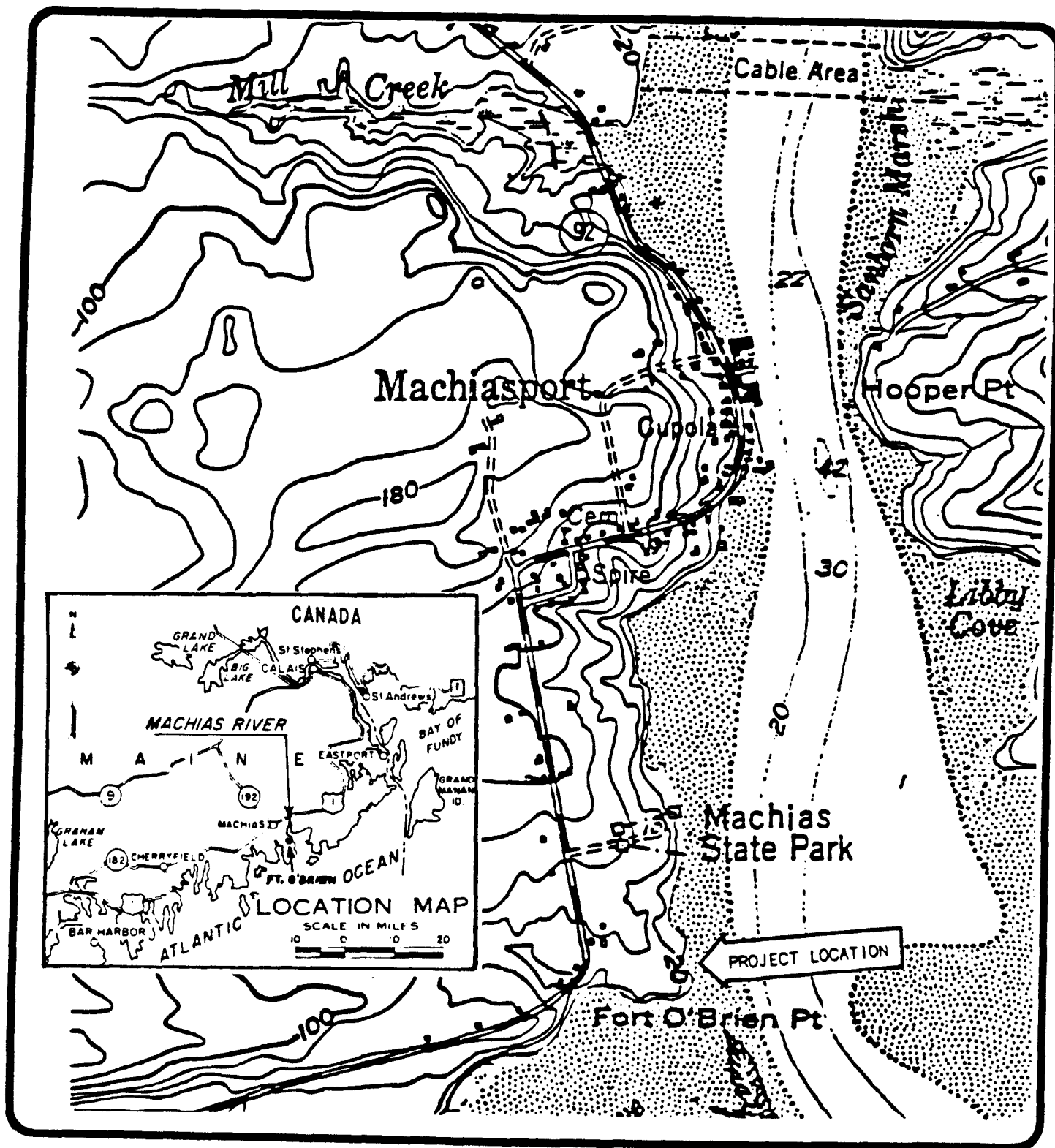
The without project condition is defined as the most probable future condition for the study area, assuming no Federal project is implemented. Under that scenario the erosion at Fort O'Brien would be expected to continue, resulting in irrevocable loss of the works at Fort O'Brien and any historic artifacts that may be buried there.

Plan Formulation

Alternatives were formulated, developed and examined to determine their economic and engineering feasibility, the impacts of their implementation and public acceptance. This section lists the alternative plans considered and the evaluation process used to screen them.

Among those plans considered as practical solutions to the erosion problem were stone revetments, grid block revetments, wood and metal bulkheads, and concrete walls. Vegetated slopes, gabions (wire and synthetic) and used rubber tire mattresses were preliminarily judged to be impractical due to the harshness of the environment. The stone and grid block revetments are recommended because historically they have been more economical than wood and metal bulkheads, and concrete walls on other Corps projects. Typical sections for the stone and grid block revetments are shown in Plates 3 and 4. The revetment layer thicknesses shown are based on approximately a five foot design wave height. Approximately 350 linear feet of revetment would be required to provide adequate transition areas and protect the areas where significant erosion has occurred.

The estimated construction cost for the stone revetment alternative is \$465,000, while the estimated construction cost for the grid block revetment is \$503,000. The estimates do not include any costs associated with the development of plans and specifications or for project supervision and administration. Therefore, the stone revetment is the least costly recommended solution to the erosion problem at Fort O'Brien State Park. The annual cost for the construction of the stone revetment is \$46,900 based on an interest rate of 8 7/8 percent and a project life of twenty-five years.



STREAMBANK PROTECTION

Plate 1

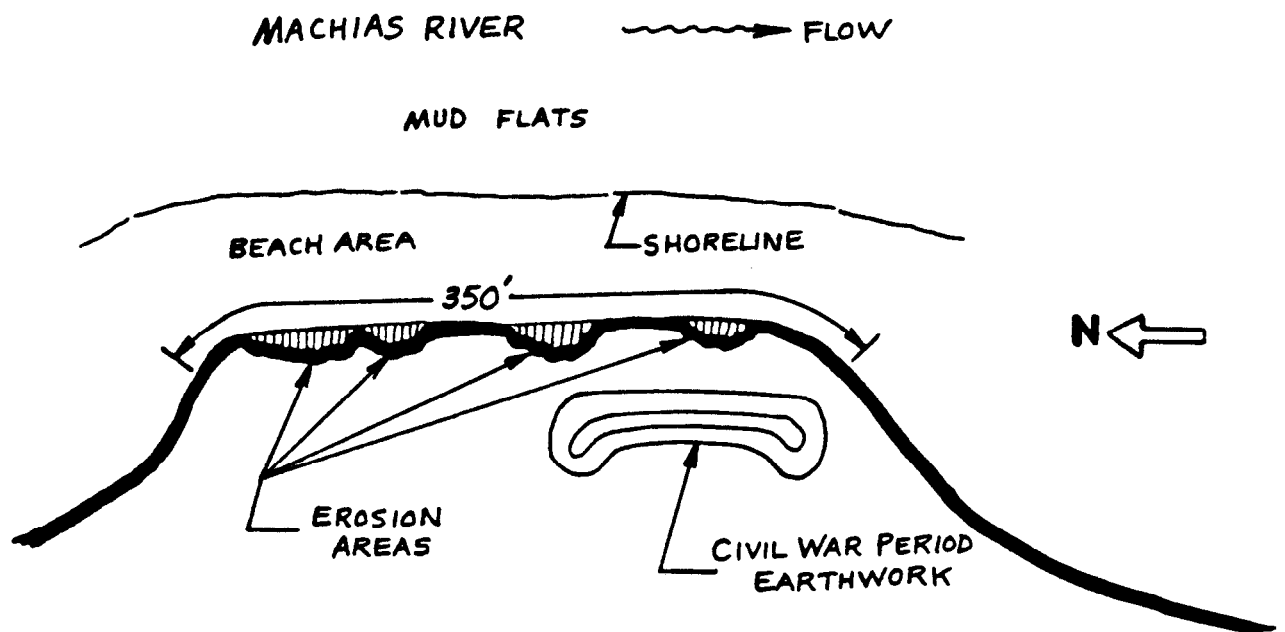
Location Map Fort O'Brien State Park

MACHIAS RIVER, TOWN OF MACHIASPORT, MAINE

New England Division



US Army Corps
of Engineers



SCHOOL

NOT TO SCALE.

STREAMBANK PROTECTION

Plate 2

Site Plan Fort O'Brien State Park

MACHIAS RIVER, TOWN OF MACHIASPORT, MAINE

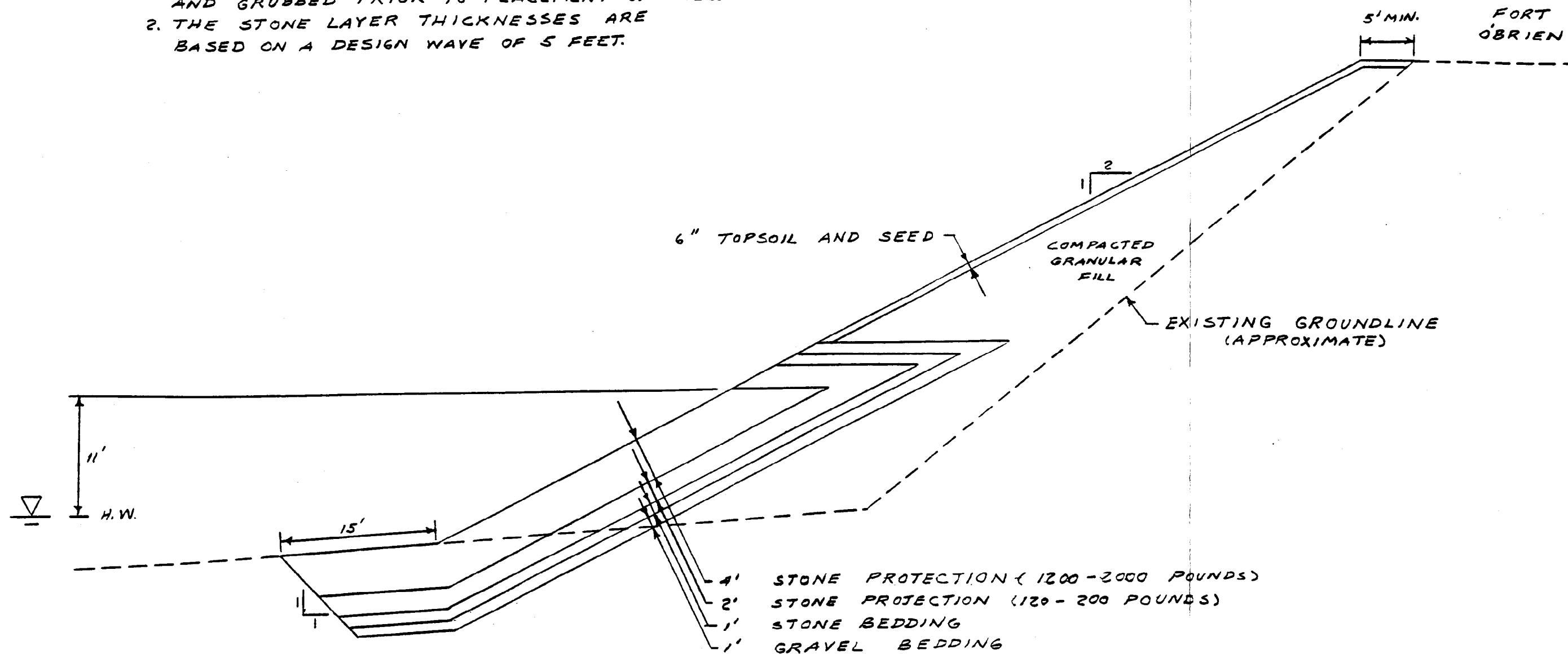
New England Division



US Army Corps
of Engineers

NOTES:

1. EXISTING GROUNDLINE SHALL BE CLEARED AND GRUBBED PRIOR TO PLACEMENT OF FILL.
2. THE STONE LAYER THICKNESSES ARE BASED ON A DESIGN WAVE OF 5 FEET.



STONE REVETMENT SECTION

SCALE: 1" = 10'

STREAMBANK PROTECTION

Plate 3
Typical Section for
Stone Revetment
Fort O'Brien State Park

MACHIAS RIVER, MACHIASPORT, MAINE

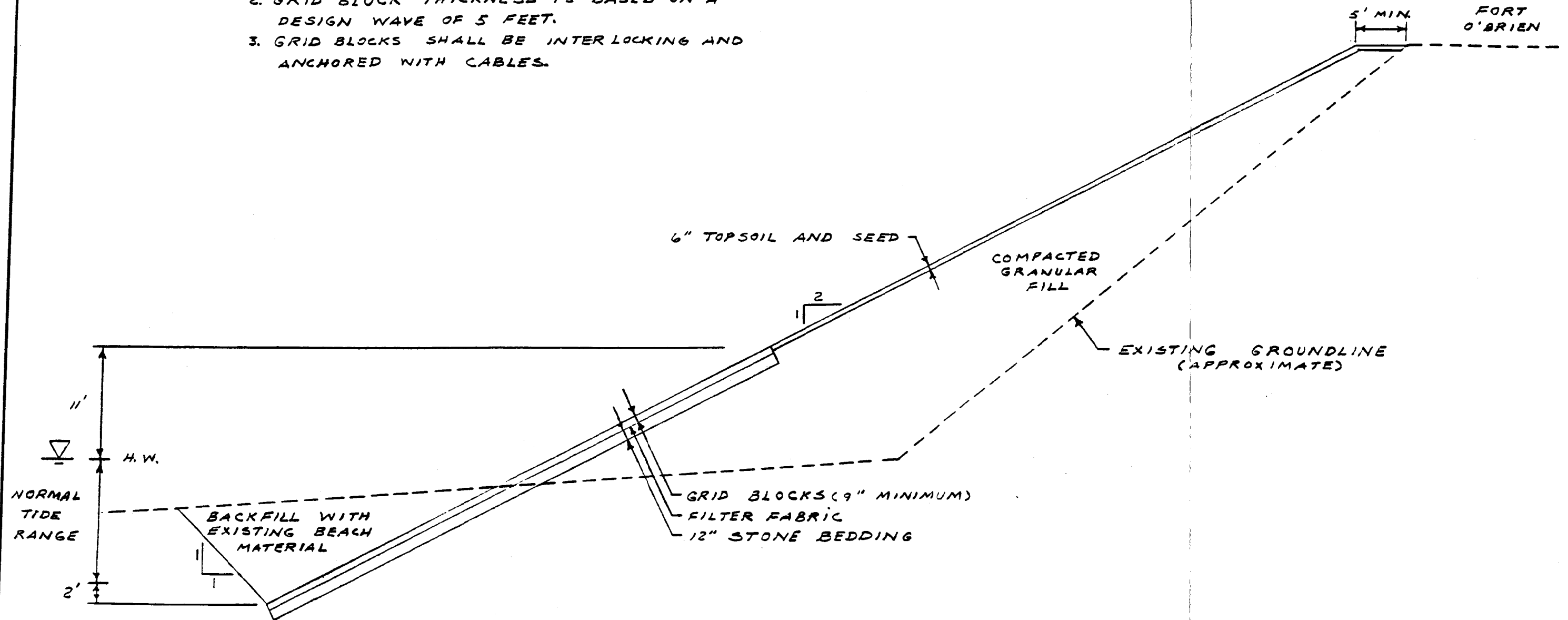
New England Division



US Army Corps
of Engineers

NOTES:

1. EXISTING GROUNDLINE SHALL BE CLEARED AND GRUBBED PRIOR TO PLACEMENT OF FILL.
2. GRID BLOCK THICKNESS IS BASED ON A DESIGN WAVE OF 5 FEET.
3. GRID BLOCKS SHALL BE INTERLOCKING AND ANCHORED WITH CABLES.



GRID BLOCK REVETMENT SECTION

SCALE: 1" = 10'

STREAMBANK PROTECTION

Plate 4 Typical Section for
Grid Block Revetment
Fort O'Brien State Park

MACHIAS RIVER, MACHIASPORT, MAINE

New England Division



US Army Corps
of Engineers

Benefit Analysis

In order for a project plan to be recommended for approval by the Office of the Chief of Engineers, it is necessary to show that the annual economic benefits for a proposed plan are greater than or equal to the annual costs for that project. A benefit to cost ratio of 1.0 or higher is therefore required for Federal participation.

Economic benefits that would accrue to the protection plan at Fort O'Brien were evaluated under two categories, (i) recreation and (ii) avoidance of future historic data recovery costs. Both were based on the most probable future without project condition.

Unit day values are assigned to the recreational experience associated with visiting Fort O'Brien State Park. Typical activities might include picnicking, the educational experience of exploring the fort and partaking of the scenic views, or kite-flying. If the park were to be closed due to erosion, the value of those activities to potential visitors would be lost. Based on two previous Corps projects in northern New England, a unit day value of \$3.00 per person was selected. Annual visitation is estimated at 2500 to 3000 persons (1). Annual benefits due to visitation are therefore estimated to be (\$3.00 x 3000) \$9,000.

The second benefit category considers the unique historic value of Fort O'Brien. Multiple generations of fortifications are present at the site, and it is not known precisely the extent of the earliest works. Existing records indicate a dispersed pattern of use at the site, however, it is not uncommon to have superimposed military construction in areas where available land is limited by strategic objectives. If the land at Fort O'Brien is to be lost to future generations as a result of continuing erosion, then the Maine Historic Preservation Commission proposes a data recovery operation (2) to be conducted in three phases. The entire program would involve document research, intensive site archaeological excavation, and analysis and preservation of artifacts. The range of total costs estimated for the data recovery operation is \$425,000 - \$600,000. Implementation of the Corps plan would produce the benefit of avoiding these expenditures.

Impressions of support were created for the data recovery operation as mandatory in the absence of any permanent bank protection measures at Fort O'Brien. The avoidance of expenditures associated with that program represents a majority of the benefits available for the potential justification of a bank protection project. If the proposed phases of the suggested program were implemented in consecutive years over a three

Notes: (1) Letter from Stephen Cole, Maine Department of Conservation dated 16 October 1989.

(2) Letter from Robert Bradley, Maine Historic Preservation Commission, dated 17 August 1989.

year period, the annual cost over a twenty-five year period would be \$49,500. The addition of the visitation benefit would yield an annual benefit of \$58,500.

At present, the State of Maine cannot provide assurances that it will pursue a data recovery program in the event that slope protection is not provided. This is documented by a letter from the Maine Bureau of Parks and Recreation to the Corps of Engineers dated 7 September 1990. As a result, data recovery is not considered to be the most probable future condition. The basis for estimating a benefit for avoiding these costs is therefore removed, which precludes benefit estimation under this category.

CONCLUSION

There are significant intangible benefits that would result from the protection of imperiled historic sites such as Fort O'Brien. However, specific guidance and policy exists governing appropriate benefit categories and procedures for the determination of Federal interest. Several practical solutions were formulated for the protection of Fort O'Brien, but due to a lack of economic justification for these plans no Federal participation under Section 14 is possible at this time.



John R. McKernan, Jr.
Governor

C. Edwin Meadows, Jr.
Commissioner

DEPARTMENT OF CONSERVATION

September 7, 1990

Joseph L. Ignazio
Department of Planning
Department of the Army
New England Division
Corps of Engineers
Waltham, MA 02254-9149

Dear Mr. Ignazio

Reference is made to your letter of August 29, in which you ask that we provide you with assurances that we will pursue and are confident that we will be able to secure funding in the amount of \$425,000 to \$625,000 in order to recover data that would be lost with continued stream bank erosion at Fort O'Brien. We are not able to provide you with such assurances.

We would like to thank the Corps for the work it has done to date, at our request, in assessing the extent of the problem at Fort O'Brien and in considering remedial action. We look forward to receiving a copy of your final report.

Sincerely,

Herb Hartman
Director

HH/md

CC: R. Bradley
S. McDonald

August 29, 1990

Planning Directorate
Plan Formulation Division

Mr. Herbert Hartman, Director
Maine Department of Conservation
Bureau of Parks & Recreation
State House Station 22
Augusta, ME 04333

Dear Mr. Hartman:

This letter is to confirm the information that was provided to you on 28 August 1990 in a telephone communication between you and Messrs. Larsen and Keegan, of my staff.

In response to your July 20, 1989 request, the New England Division is currently conducting an investigation of the streambank erosion that is occurring on the Machias River in the vicinity of Ft. O'Brien in Machiasport, Maine. As part of our investigation we are required to determine the 'without project conditions' at the site. Simply stated, these are the conditions or events that are expected to occur in the future if a Federal project is not implemented.

Mr. Robert Bradley, Assistant Director of the Maine Historic Preservation Commission, has provided this office a letter, dated August 17, 1989 detailing the history and current problem in the Ft. O'Brien area. His letter also indicates that if a streambank protection project is not implemented, his office is proposing a data recovery program to document the historic resources of Ft. O'Brien that will be lost with continued streambank erosion. The cost of this data recovery program was estimated to be between \$425,000 and approximately \$625,000 by Mr. Bradley.

If the State will, in fact, conduct this data recovery program if a streambank erosion project is not implemented, the cost of such a program can be included in the Corps 'without project condition' in our economic analysis. The avoidance of the cost of this data recovery program is, therefore, a 'creditable benefit' and can be included in our benefit-to-cost analysis. Inclusion of this credit combined with project visitation benefits will result in a cost-efficient project that we could recommend be implemented.

However, in order to include this avoidance cost in our benefit analysis we are required to obtain certain documentation from the State of Maine. We are required to have a written letter from an agency, with funding capability, that clearly indicates that in lieu of implementation of a Federal protection project the agency will pursue and believe they can

secure funding for the data recovery project. If such assurances can not be secured, we must conclude that proposed data recovery program can not be included in our 'without project conditions' and its cost cannot be included in our benefit analysis. Economic evaluations indicate that the benefit cost ratio in this case will be below unity and further Federal action is not warranted.

We have contacted you since we understand that your agency is responsible for the Ft. O'Brien site and you would request funding for any proposed data recovery program at Ft. O'Brien. If you feel that the required assurances can be provided by your office, we request that you contact us, in writing, by September 15, 1990. Should we not receive a response from your office by that time, we must eliminate the cost of the proposed data recovery project from our analysis and conclude that there is no Federal interest in further work at this site.

Should you have any further questions or require further information, please contact Mr. David Larsen at (617) 647-8113.

Sincerely,

Joseph L. Ignazio
Director of Planning

cc: Mr. Larsen, 114S
Mr. Swaine, 114S
Mr. Keegan, 114N
Plan Dir. Files, 114N

United States Senate

WASHINGTON, DC 20510

October 20, 1989

Colonel Daniel M. Wilson
U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Massachusetts 02254

Dear Colonel Wilson:

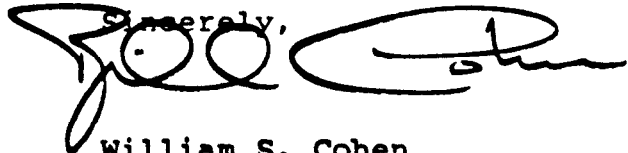
I am writing in support of the Maine Bureau of Parks and Recreation's request for assistance, under Section 14 of the 1946 Flood Control Act, in arresting the severe coastal erosion which threatens Fort O'Brien in Machiasport, Maine.

As a colonial fortification which overlooks the location of the first naval engagement of the Revolutionary War, Fort O'Brien is a symbolic and significant state historic site with special meaning to the people of Washington County and throughout Maine. Its continued preservation is an important matter that should not be overlooked.

I would very much appreciate your serious consideration of this request. Fort O'Brien is an historic site richly deserving of Corps assistance.

Again, thank you for your attention to this matter.

With best wishes, I am

Sincerely,


William S. Cohen
United States Senator

CORPS OF ENGINEERS
NEW ENGLAND DIVISION
OCT 30 2 03 PM '89
WALTHAM, MASS.

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United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-8175

October 20, 1989

Colonel Daniel M. Wilson
Division Engineer
U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Massachusetts 02254-9149

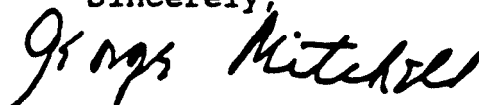
Dear Colonel Wilson:

I am writing on behalf of the Machiasport Historical Society, the Maine Historic Preservation Commission and the Maine Bureau of Parks and Recreation, all of whom have recently requested your assistance, under Section 14 of the 1946 Flood Control Act, in arresting the severe coastal erosion which threatens Fort O'Brien in Machiasport, Maine. This letter supports those requests.

As a colonial fortification which overlooks the location of the first naval engagement of the Revolutionary War, Fort O'Brien is a symbolic and significant State Historic Site with special meaning to the people of Washington County. Its continued preservation is an important matter.

In 1982, the U.S. Army Corps of Engineers graciously answered a similar request in the construction of a retaining wall at the site of Fort Pentagoet, Castine. Fort O'Brien is an historic site equally deserving of Corps assistance.

Sincerely,



George Mitchell

WALTHAM, MASS.

OCT 24 11 46 AM '89

CORPS OF ENGINEERS
NEW ENGLAND DIVISION



John R. McKernan, Jr.
Governor

C. Edwin Meadows, Jr.
Commissioner

DEPARTMENT OF CONSERVATION

October 16, 1989

Colonel Daniel M. Wilson
Division Engineer
U.S. Army Corps of Engineers
New England Division
Waltham, MA 02254-9149

Dear Colonel Wilson:

This is a brief letter to let you know that even though you haven't heard from us recently, we are still pursuing the Fort O'Brien project in Machiasport, Maine and hope to engage the assistance of the Army Corps of Engineers in it.

After our initial contact with you we were delayed in any follow-up because of the necessity of briefing Governor McKernan's office before further action. That completed, we are preparing to move forward. We will be contacting the offices of Senator George Mitchell and Senator William Cohen this week and we expect that you will hear from them shortly.

Thank you very much.

Sincerely,

Herb Hartman
Director

HH/md



John R. McKernan, Jr.
Governor

C. Edwin Meadows, Jr.
Commissioner

DEPARTMENT OF CONSERVATION

October 16, 1989

David Larsen
Engineer
U.S. Army Corps of Engineers
New England Division
Waltham, MA 02254

Dear Mr. Larsen:

Herb Hartman has asked me to answer your request for information about Fort O'Brien and current conditions at the site. We estimate the height of the eroding, facing slope to be between 40 and 50 feet and the length of the slope at 200 feet. Though erosion varies widely from year to year, in the past twelve months the site lost a section of earth 4 feet wide and 10 feet long from the slope. This is the area shown prominently in the photographs sent to your office. As to visitation, between 2,500 and 3,000 people visited Fort O'Brien in the last calendar year. As the regional supervisor for the Bureau of parks and Recreation pointed out, this is a meaningful number considering that the site is a few miles east of Route One.

Please call or write should you have further questions.

Sincerely,

STEPHEN A. COLE
Stephen Cole
Acting Historian

SC/md

CC: H. Hartman

maine copy

The Machiasport Historical Society

P.O. Box 301

Machiasport, Maine 04655

August 28, 1989

David Larsen
U. S. Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254-9149

Dear Mr. Larsen:

In our telephone conversation we neglected to ask your title or classification in the Army Corps of Engineers, so please forgive the lack of its use in our correspondence.

We discussed an approximate visitation figure for the State Memorial at Fort O'Brien. I would estimate that close to 600 students from this area visit yearly, about 200 elderhostel students from University of Maine at Machias in summer session come out to the park each summer and probably in excess of 1500 tourists. The Gates House has entertained tour groups who arrive in busses and who invariably go to Fort O'Brien. Most of the people who come to the Gates House, after learning some of the history of the battle between the Margarettta and the Unity, go the brief distance to Fort O'Brien to see the actual site. Many tell us they have read about Fort O'Brien in publications such as the AAA Tour Guide books or other brochures. These are really our only measures for estimating attendance at the park and I believe it would be safe to say that in the course of one season Fort O'Brien has between two and three thousand visitors and it could be an even larger number.

After our telephone conversation with you, Mr. Foster went to the site. The entire frontage of the park is 600 feet. Of the six hundred feet 350 feet are eroding rapidly and the most critical area of erosion is only 15 feet from the base of the breastwork.

It was encouraging to hear from you and we hope this matter will be pursued further and acted upon. You said that you had copies of the pictures that Mr. Foster took. If you do not have them let us know and we will see that you have copies. If there is any information we can provide you, please do not hesitate to let us know.

Sincerely yours,



Carolyn Johnson, President
Machiasport Historical Society

cc: Herbert Hartman



MAINE HISTORIC PRESERVATION COMMISSION

55 Capitol Street
State House Station 65
Augusta, Maine 04333

Earle G. Shettleworth, Jr.
Director

Telephone:
207-289-2133

August 17, 1989

Marie Bourassa, Archaeologist
Planning Division
Army Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02254

Dear Marie:

In response to your recent request, I have studied the issue of a full-scale data recovery program at Fort O'Brien in Machiasport as a potential alternative mitigation to an erosion control device of some sort.

The site of Fort O'Brien lies on a parcel of approximately 2 acres, deeded to the State of Maine by the Secretary of War in 1923 "for use for public park purposes only". The reversionary clause calls for a return to federal ownership if the site ceases to be a public park.

There are really two archaeological sites present, which we might term Fort O'Brien I and Fort O'Brien II. For the present purposes they need to be examined separately.

Fort O'Brien I at this time has no surface visibility. Its construction began with the erection of a crescent-shaped earthen battery which was visible in 1864 and measured approximately 90 feet in length by 15 feet in width. This was first built in 1775. Two years later, in 1777, the Federal Government took over the fort, gave it a substantial garrison of 300 men and fitted it with two 9-pounders and one 6-pounder cannon. At this time the battery was strengthened in some undetermined way, and a barracks was constructed. The fort survived as a complex until 1814, when its then garrison of 100 men retreated under British attack, the barracks burned, and the cannon were captured and removed.

MAINE HISTORIC PRESERVATION COMMISSION

55 Capitol Street
State House Station 65
Augusta, Maine 04333



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The site was re-fortified in 1863 (Fort O'Brien II) with an entirely new 150-foot-long battery with embrasures for three 32-pounder smooth-bores and two 24-pounder rifled cannon. Other buildings consisted of a 14X10-foot storehouse and a 43X39-foot powder magazine (external) covering a semi-subterranean log chamber measuring 18X12 feet. At this point it is not known where the garrison was quartered. Fort O'Brien II was built adjacent to, and south of, Fort O'Brien I.

The only graphic source of information which I am aware of is an Army Corps of Engineers plan of 1864 which shows the 1863 complex in great detail and at least roughly locates the 1775 battery.

The only archaeological work on the site was contracted for by the State of Maine in 1964 and 1965. This focussed only on the 1863 magazine and was not conducted under current scientific standards.

It is my understanding that without an erosion control program, all of these elements may be lost to the ocean, so mitigation through data recovery would need to thoroughly examine and document all known or undocumented components of both forts. This would involve sectioning both the 1775 and 1863 batteries in at least two places each, as well as extensive testing within them to see if any traces of gun-mounts are present. The 1863 magazine and storehouse would require similar treatment to verify their dimensions and determine their method of construction. Test units on transects would need to substantially sample the rest of the 1863 complex to determine whether other structures--particularly a barracks--were built after the 1864 plan was drawn. The 1777 complex presents more difficulty, since no plan of it exists. Extensive testing on transects would have to be done to locate and study the barracks built in that year and burned in 1814. In all of this testing, sufficient coverage of both forts would need to determine artifact patterning for structural features and non-architectural objects relating to activity areas, garbage disposal, etc.

All of this would be best conducted in phases. Phase I would involve primary documentary research, primarily or exclusively in the National Archives. It would also involve remote-sensing through the use of aerochrome infrared aerial photography.

MAINE HISTORIC PRESERVATION COMMISSION

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Phase II would consist of intensive-level survey meant to initially locate structures like the 18th-century barracks and, possibly, such things as wells and privies. It would also involve much of the random transect testing noted above.

Phase III would cover the large-scale (though not necessarily complete) excavation of structures located in Phases I and II, as well as structures whose locations are already known, such as the 1863 battery and magazine.

Cost estimates for projects of this scope are notoriously difficult to arrive at; this is particularly the case for Phase III until the data generated by Phases I and II are available. However, the figures for the first two phases are reasonably close to the mark.

PHASE I

Primary Documentary Research	\$ 6,000
Remote-Sensing Aerial Photography	<u>3,000</u>
Total	\$ 9,000

PHASE II

Salary (Principal Investigator: \$350/day x 60 days)	\$21,000
Salaries (5-person crew x \$225/day x 50 days)	56,250
Per Diem	12,500
Travel	1,000
Equipment	1,000
Supplies	1,000
Laboratory Processing and Analysis	15,000
Artifact Conservation	<u>5,000</u>
Total	\$112,750

PHASE III

Depending on nature of Structural features, \$300,000-500,000.

Thus, the full price-tag for the entire data recovery program would probably range from something over \$425,000 to a little more than \$600,000.

MAINE HISTORIC PRESERVATION COMMISSION

55 Capitol Street
State House Station 65
Augusta, Maine 04333



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I hope that this information will be of use to you and your colleagues as you consider the problem of Fort O'Brien. Whether mitigation of this situation is carried out by erosion control or data recovery, one or the other has to be done. The site is the only Revolutionary War fortification in eastern Maine, and one of the few on the entire east coast which is undisturbed. Continuous Federal and State ownership since 1777 has seen to that.

Please let me know if I can be of further assistance in this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bob", is written over the typed name.

Robert L. Bradley, Ph.D.
Assistant Director and DSHPO

cc: Herbert Hartman, Director
Maine Bureau of Parks and Recreation

Earle G. Shettleworth, Jr., Director and SHPO
Maine Historic Preservation Commission

RLB/slm

The Machiasport Historical Society

P.O. Box 301

Machiasport, Maine 04655

July 31, 1989

Colonel Daniel M. Wilson
Division Engineer
U. S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Ma. 02254 9149

Dear Colonel Wilson:

We have been apprised of the fact that the Director of the State of Maine Department of Conservation, Mr. Herbert Hartman, has contacted you in regard to Fort O'Brien, an historic site maintained by the state of Maine in Machiasport.

The Machiasport Historical Society is becoming increasingly concerned about the erosion problem at the site. Unless it is soon checked, this site overlooking the first naval engagement of the Revolution will be totally lost to future generations. We feel that it is imperative that something be done to preserve this important landmark.

I am writing in behalf of the Machiasport Historical Society to see if the U. S. Army Corps of Engineers might assist in controlling this serious erosion problem.

We would appreciate hearing from you regarding this matter.

Thank you.

Sincerely yours,



Carolyn Johnson
President

Machiasport Historical Society

cc: Herbert Hartman



MAINE HISTORIC PRESERVATION COMMISSION
55 Capitol Street
State House Station 65
Augusta, Maine 04333

Earle G. Shettleworth, Jr.
Director

July 27, 1989

Telephone:
207-289-2133

Colonel Daniel M. Wilson, Division Engineer
U. S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Massachusetts 02254-9149

Dear Colonel Wilson:

It has come to my attention that the Maine Bureau of Parks and Recreation has contacted you about severe coastal erosion at one of its historic sites, Fort O'Brien in Machiasport. My office has assessed this problem and agrees with the Bureau that addressing it will require the expertise of your staff.

On July 26, 1985, my Commission presented one of its three Annual Preservation Awards to your Division in recognition of and gratitude for your important work in controlling erosion at Fort Pentagoet in Castine. If it is possible for you to address the erosion at Fort O'Brien, those who are concerned about the long-term preservation of Maine's historic sites will once again be very grateful.

If you or your staff should have any questions about this matter, please do not hesitate to contact the Commission's Assistant Director, Dr. Robert Bradley.

Sincerely,

Earle G. Shettleworth Jr.
State Historic Preservation Officer

cc: Dr. Bradley

EGS/slm



John R. McKernan, Jr.
Governor

C. Edwin Meadows, Jr.
Commissioner

DEPARTMENT OF CONSERVATION

July 20, 1989

Colonel Daniel M. Wilson
Division Engineer
U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, MA 02254-9149

Dear Colonel Wilson:

I am writing to seek the assistance of the U.S. Army Corps of Engineers under Section 14 of the 1946 Flood Control Act in providing shoreland erosion protection to Fort O'Brien, Machiasport, Maine. A State Historic Site managed by the Maine Bureau of Parks and Recreation, Fort O'Brien is a 1775 earthworks overlooking the site of the first naval engagement of the Revolutionary War. The fortifications at Fort O'Brien were enlarged and utilized during the War of 1812 and the Civil War, as well.

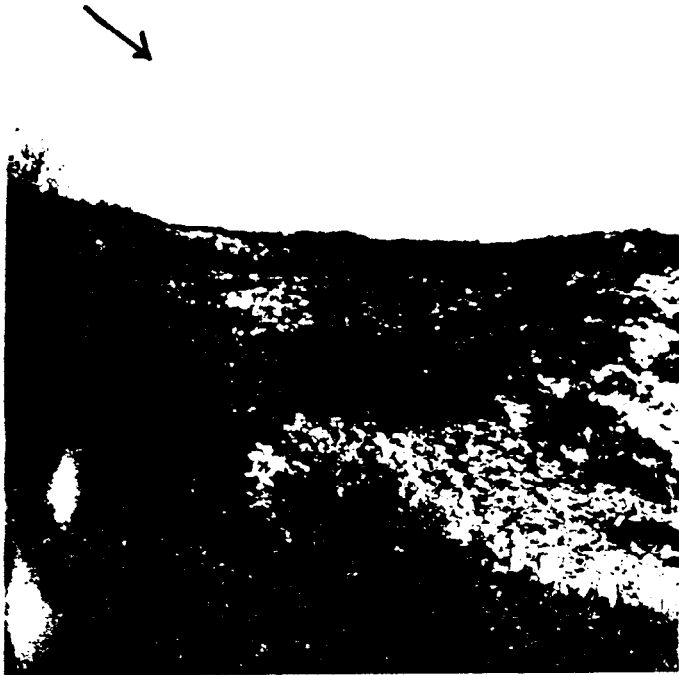
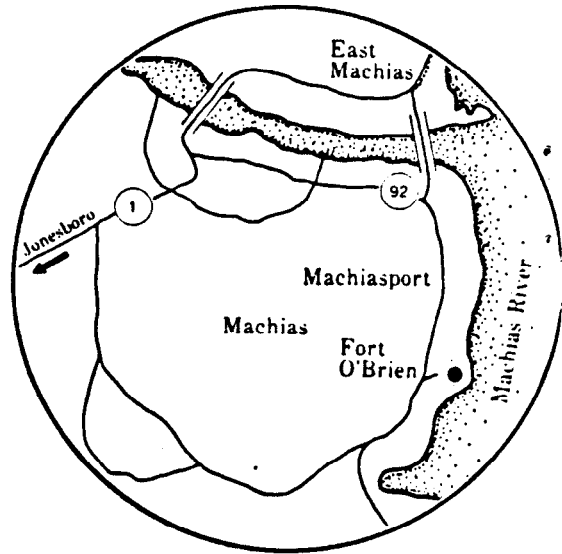
Located at the confluence of the Machias River and Machias Bay, Fort O'Brien is now suffering severe coastal erosion which threatens the earthworks. The problem is very much like that of Fort Pentagoet in Castine, Maine, where the U.S. Army Corps of Engineers provided erosion control in 1982. Because the Maine Bureau of Parks and Recreation has neither the expertise nor the funding to solve the problem at Fort O'Brien, we are seeking the assistance of your office. I have enclosed for your information illustrations of the erosion damage at the fort and a brief history of Fort O'Brien. Your consideration of this request is greatly appreciated; should you need further information, please contact Stephen Cole or Sheila McDonald of my staff.

Sincerely,

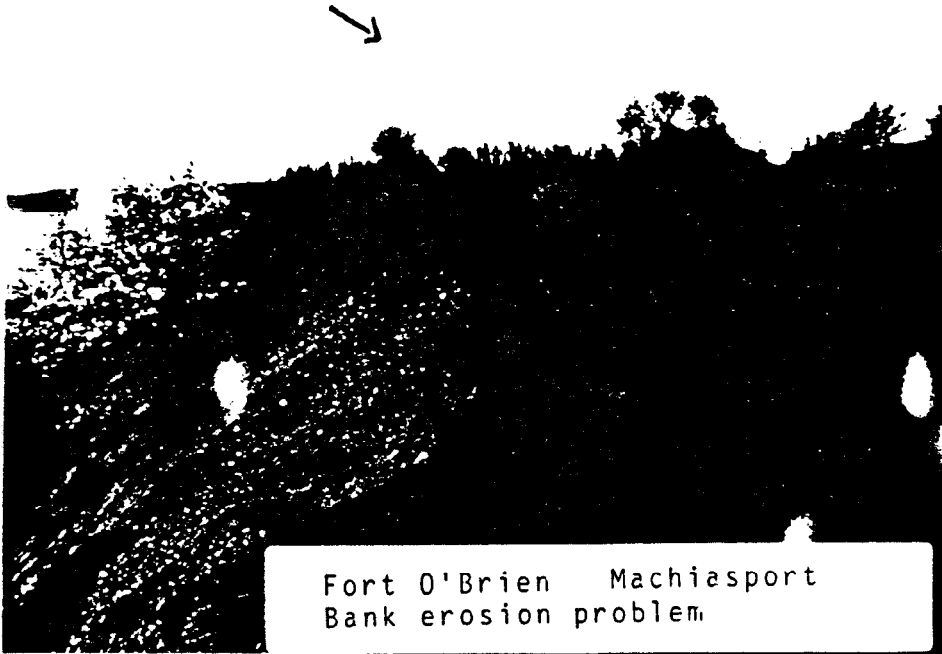
Herb Hartman
Director

xc: S. Curtis
B. Cleaves
Enclosures

Fort O'Brien Machiasport



Fort O'Brien - Machiasport
Bank erosion problem



Fort O'Brien Machiasport
Bank erosion problem

The Machias River saw early settlement. In 1633 and again in 1643 English trading posts were established in the vicinity, and a small French settlement thrived for a few years from the 1680's. By the time of the American Revolution Machias was becoming a center for Anglo-American logging operations, and it was this frontier community which was to precipitate the first naval engagement of the war in which the British ship "Margaretta" was captured on June 12, 1775. Anticipating retaliation, the townspeople hastened to build a breastwork on the river under the direction of one Jeremiah O'Brien. The British response was not long in coming when Sir George Collier with four vessels drove the defenders away.

In 1777 the "Eastern Department" was re-organized and Machias became its military headquarters. Fort Machias (or Fort O'Brien, as it has become known) was upgraded by Massachusetts and placed under the command of Col. John Allan of Nova Scotia. Allan was directed to enlist 100 men, a figure increased to 300 later in the year after a damaging English raid. Armament consisted of new muskets for the troops as well as two 9-pounders and one 6-pounder cannon. The fort itself was repaired and strengthened, and barracks were constructed. It was to see no further action during the Revolution, thus succeeding in protection Machias from further English depredations.

Practically nothing is known of Fort O'Brien's construction details, but a survey map drawn in 1864 shows the "site of Old Battery" just to the north of a Civil War battery. This was a crescent-shaped earthwork, clearly visible in the 19th century, which was some 90 feet long and 14 or 15 feet thick.

In 1781 Congress took control of Fort O'Brien: "It is ... RESOLVED, That the Governor and Council of



28. Fort O'Brien, Civil War battery

Massachusetts be, and they hereby are empowered, to complete the company of artillery at the post of Machias, to a number not exceeding sixty-five ... the said company to be under the command of Col. John Allan, and to be raised, clothed, paid and subsisted, as Continental soldiers, at the expense of the United States."

During the British naval offensive of 1814 Fort O'Brien fared less well. In September five men-of-war carrying some 900 regulars descended upon the Machias River and Fort O'Brien, defended by about 100 men, had to be hastily abandoned. Staying a couple of days, the British burned the barracks and removed the guns.

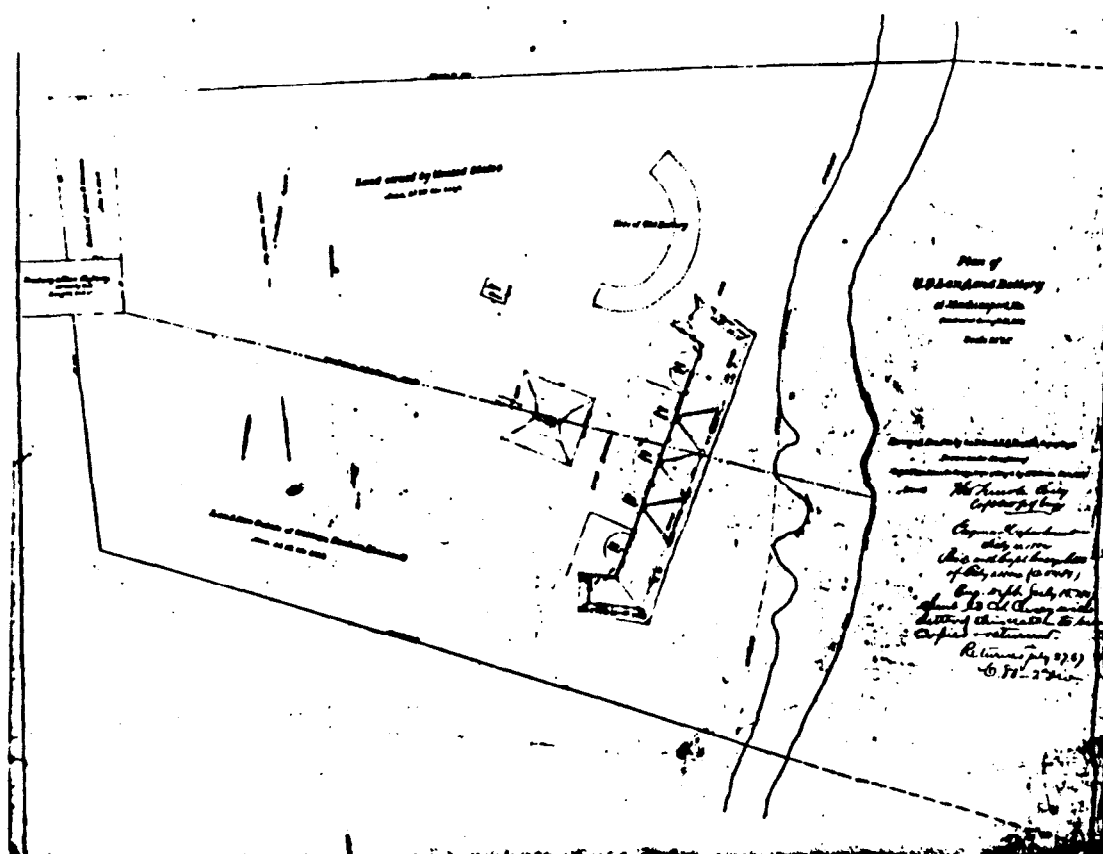
The next (and last) time that Fort O'Brien was activated was in the fall of 1863 when an entirely new battery was constructed, just to the south of the 18th-century fortification. The Civil War was at its height, and there were genuine fears that a Con-

federate raider, such as the notorious "Alabama," might sail up the Machias River and devastate one of eastern Maine's most important towns. Accordingly, a new Fort O'Brien was built from designs by Thomas Lincoln Casey and B.R. Green. A military engineer, Casey was in charge of all Maine fortifications during the Civil War and was later to complete the construction of the Washington Monument.

The fort consisted of the following components. A small gable-roofed store house measuring 14 feet by 10 stood to the north-west. In the center of the complex was a nearly square timber magazine measuring externally 43 feet by just over 39. Excavations by Wendell Hadlock in 1965 indicated that this semi-subterranean structure was built of unhewn logs, varying from eight to twelve inches in diameter, which sheltered an 18 by 12-foot chamber for powder and ammunition storage. The battery itself faced east and was a timber-revetted earthwork about 150 feet long, north to south. This work protected five guns. The three central guns were 32-pounder smoothbores which were mounted at ground level and fired through embrasures 18 feet wide at their mouths. The two other guns, one at each end, were 24-pounder rifled cannon. These seem to have been mounted at a higher level *en barbette*, that is, they fired over the parapet rather than through it.

Fort O'Brien is to this day a prominent earthwork overlooking the Machias River in Machiasport. Its peaceful setting belies the fact that in three American wars fortifications were built and defended here with greater or lesser success to protect one of eastern Maine's major population centers.

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29. Fort O'Brien, plan

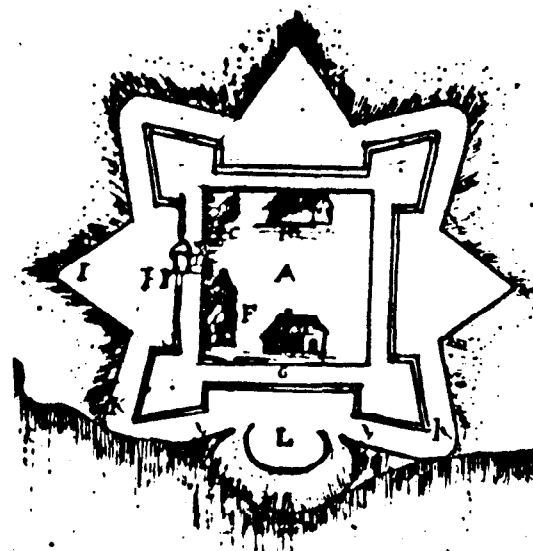
The history of the Town of Castine is long and complex. The first European known to have settled the place was an Englishman by the name of Edward Ashley who established a trading post about 1629. In 1630 the Plymouth Colony took control of Ashley's post, which in due course was destroyed by the

French in 1635. Thereafter Castine, known as Pentagoet, became the most important French settlement in Maine, protected by Fort Pentagoet. Antiquaries researched this fort and conducted limited excavations on its site in 1891. At the time of writing (1981) Alaric Faulkner of the University of Maine has

uncovered the cobbled parade-ground and substantial remains of the curtain and southwest bastion, constructed of slate from Mayenne, France.

At its height, about 1670, Fort Pentagoet was a square fortification with corner bastions and a seven-pointed outer palisade. Eyewitness descriptions of the time refer to a magazine, guardhouse, chapel, officers' quarters, barracks, and a cookhouse. Clearly, Fort Pentagoet was substantial, a fact that archaeology now and in the years to come is proving.

As French fortunes ebbed during the ensuing Indian Wars, the settlement and fort at Castine had a checkered history. By 1744 France abandoned the small peninsula, never to return.



30. Fort Pentagoet, plan (1670)

